



FACTSHEET on Highly-Resistant HIV

Four King County men have tested positive for HIV with strains that are resistant to several classes of anti-HIV drugs. One of the men was tested in late 2005, and the other three were tested in 2006. In January 2007, researchers found these strains to look very similar. Thus, these men may have had sex or shared injection equipment with common partners.

Since 2000, Public Health has identified 12 other cases of HIV that are also resistant to several anti-HIV drugs. However, the recent 4 cases are resistant to many more anti-HIV drugs across more drug classes than most of the other 12 cases. Since the 4 current cases were infected over at least one year, this highly resistant form of HIV may be still be spreading in the community.

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What does “drug resistant” mean?

There are four classes of anti-HIV drugs (also called “antiretrovirals” or “ARVs”), with several drugs in three of the classes. When HIV meets an anti-HIV drug, it tries to survive by changing its genetic code. Over time, the HIV virus changes enough to get around the drug and keep making copies of itself. When HIV can resist one drug, it can often resist other drugs in the same class. Sometimes HIV can be “drug-resistant” to several drugs across two or more classes. This kind of HIV is called “multi-drug resistant HIV” or “MDR-HIV.”

HIV treatment is very complex, and people with HIV must take medications on a very strict schedule. Resistance can build up if a person does not follow this schedule or if he/she is not on the correct treatment program.

How did Public Health find out about these cases?

Since around 2000, Public Health has been tracking cases of drug resistance among people newly-diagnosed with HIV. Two of the four cases were found during this routine lab testing. The last two cases were found by medical providers who then alerted Public Health.

Where did this MDR HIV come from?

There is no way to know for sure. We do not know where this strain started (i.e., who had it first) or how many people in this network came in contact with this strain through unprotected sex or sharing injection equipment.

Is this a new problem?

Drug resistance is not new. Since 2000, Public Health has identified 16 total cases of multiple class drug-resistant HIV in people recently diagnosed with HIV in King County. None of the past 12 cases looked as similar to each other as the current four. About 11% of people recently diagnosed with HIV who haven’t started treatment have at least some high-level resistance to at least one of the ARV drugs used for HIV. 3% have shown high-level resistance to one or more drugs in two or more drug classes. These rates are similar to other urban areas and have not changed locally over time.

However, the current 4 cases look very similar and share many of the same patterns of drug resistance. They are highly resistant to two ARV drug classes and somewhat resistant to a third. Tests on the 4th class are not back yet. These viruses are closely linked to each other and may still be in the community.

How do you know this MDR HIV is being spread?

Because the genetic make up of these four cases looks so similar, it is unlikely that each person developed the exact same resistance pattern on his own. Also, at least three of the four cases were recent infections. So this highly resistant strain does seem to be in the community, but we don't know how easily it spreads from person to person.

Why does Public Health track HIV drug resistance?

Public Health tracks HIV drug resistance among people who have not started HIV treatment. This helps us learn what kind of HIV is being transmitted, how common drug resistance is, and which drugs might become less useful. This information helps medical providers prescribe HIV therapy more effectively.

Is there more drug resistance happening?

The longer people live with HIV, the longer they are taking HIV drugs. As more people use more HIV drugs, the chance of drug resistance increases. Over time, there will be a larger pool of people who might have HIV that is harder to treat and who may pass HIV to others.

Also, regional testing for resistance is not comprehensive and has not been conducted steadily since 2000. There are likely to be more cases than the ones we have been found. We are likely to find more cases of resistance now that we are looking harder for them.

Does this mean that people with MDR HIV will not be able to get treatment?

No. Some antiretrovirals may still work against MDR HIV, but we don't know how *well* they might work. With MDR HIV, there are fewer drugs to choose from. These options may also be harder to use, cost more or cause more side effects.

Does MDR HIV progress faster to AIDS?

We do not know how quickly this virus progresses to AIDS. We have observed these four cases for only a short time, which is too short to tell how their disease may progress. At present, each of these cases is early in HIV infection and does not yet need treatment.

Can people who already have HIV get "re-infected" with MDR HIV?

Yes. People who already have one strain of HIV can get a different strain. The second strain could be drug-resistant or not. Getting MDR HIV on top of existing HIV may cause current medications to stop working. It could also limit future treatment options and impact health.

What is happening with these individuals?

Public Health is working with these individuals and their medical providers to locate and test sexual and drug partners for HIV infection and drug resistance.

What Should I Do?

If you are a medical provider:

- Conduct drug resistance testing in all patients with newly-identified HIV. Report all cases of multi-drug resistant HIV to Public Health.

If you are HIV-negative or have not tested in the last 6 months:

- Use condoms every time you have sex.
- Use your own drug injection equipment.
- Ask sex and drug partners about their HIV status. Find out your current status and share that with your partners.
- Get tested regularly for HIV. How often is that?:
 - Every 3 months for gay and bisexually active men who:
 - Have had anal sex without a condom with a man who has HIV or whose HIV status is unknown.
 - Have recently had a sexually transmitted disease (STD).
 - Use methamphetamine.
 - Once a year for other people at sexual or drug-related risk for HIV (i.e., people who inject drugs, have STDs, or have multiple sex partners).

If you are living with HIV:

- Use condoms every time you have sex. *Even if your partner has HIV too.*
- Use your own drug injection equipment.
- Share your HIV status with sex or drug partners. Ask them about their status.
- Find out if you have drug resistance before starting treatment or if your anti-HIV drugs don't seem to be working.
- Take your medications on schedule. If that's hard to do, talk to your doctor about options.

For more information about drug-resistant HIV or where to get tested for HIV, call the HIV/STD Hotline Monday – Friday, 9am – 4pm:

(206) 205-6105

1-800-678-1595

(206) 296-4843 TTY

Other useful websites:

www.hivdrugresistance.org

<http://www.metrokc.gov/health/news/07020101.htm>